From: Vierling, Lee
To: Armitage, Thomas
Subject: Support for Dr. Mazeika Sullivan
Date: Thursday, June 06, 2013 7:26:45 PM

Dear Dr. Armitage,

I understand that Dr. Mazeika Sullivan has been nominated to an EPA Science Advisory Panel. I write to fully support Dr. Sullivan in his nomination.

I have known Mazeika for approximately seven years, during which time I have collaborated with him on several field projects and grant proposals. In addition to this research collaboration I have also witnessed Mazeika in numerous types of academic settings, ranging from advising graduate students, to leading undergraduate courses, to reaching out to laypersons in various outreach settings. I therefore feel confident that I can assess Mazeika's many talents in contexts that are meaningful for the multiple dimensions of working on a Science Advisory Panel.

I feel that Mazeika is in the top 5% of brightest young academic minds with which I have been associated. He is a nimble thinker capable of not only conceptualizing complex interdisciplinary concepts and framing highly original questions, but also of testing these ambitious hypotheses through pragmatic field data collection and highly developed quantitative data analysis skills. In his current position at Ohio State University, Mazeika has developed a strong research program to investigate multiple facets of how freshwater lotic ecosystems affect, and are influenced by, the landscapes and regions through which they run. I have been keeping up with reading Mazeika's publications and find them to be highly interdisciplinary, incorporating applications and theory relating to areas as diverse as fish population ecology, riverine biogeochemistry, fluvial hydrology and geomorphology, avian ecology, plant ecology, and ecotoxicology (to name a few) using advanced technical approaches including the use of stable isotopes and other chemical markers/tracers, rigorous statistical modeling techniques, and geospatial analyses. Mazeika's papers draw from extensive field sampling at sites that are often remote. I feel that this point is important because Mazeika's lab is highly successful at publishing their work despite the high demands of running a field-based research program (vs. one based largely on modeling or mining pre-existing data sets).

Dr. Sullivan and his laboratory are making fundamental contributions in areas that intersect riparian ecology and broad-scale drivers of environmental change. For example, he has forged novel applications of the Soil and Water Assessment Tool (SWAT; a catchment-level landscape modeling tool) by relating the coarse-scale SWAT information to in-stream characteristics such as fish species richness and the number of fish belonging to specific functional groups. In finding that the catchment-level SWAT information explains a much greater amount of variance in these factors than stream reach-level variables, Mazeika has both 1) made an elegant advance showing the importance of catchment-level land cover data relative to reach-level data for predicting stream fish assemblages, while 2) demonstrating a new application for an existing and commonly used modeling approach (SWAT). To me, this example demonstrates an interesting combination of first-principles knowledge, multi-scale analysis, and holistic thinking that are required to make a fundamental advance relating drivers of land use change (via the SWAT analysis) with in-stream

biological characteristics.

Mazeika brings to the table far more than research skill, however. Having been raised in a multicultural farm family in upstate Vermont (he is natively fluent in Lithuanian, Spanish, and English, with facility in French and other languages), Mazeika has a nuanced understanding of the connections between science, the environment, and human culture that allows him to seamlessly relate his research and teaching efforts to issues relevant to a wide range of audiences and disciplines. He is an excellent team player and I feel that he would be an excellent contributor as an EPA Science Advisory Panel member.

Good luck with your process, and please feel free to contact me with questions at any time.

Best regards,
Lee

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